

**IN THE CLAIMS:**

- 1 1. (CURRENTLY AMENDED) A method for modifying data transferred from a source  
2 to a destination, the method comprising the steps of:  
3       reading one or more instructions, by a processor, each instruction indicating an  
4 operation to modify the data;  
5       generating, in response to the one or more instructions, one or more commands  
6 wherein each command is associated with ~~an~~the operation to modify the data;  
7       placing the commands in a data structure;  
8       initiating transfer of data from the source to the destination; and  
9       performing, by a device operating independently from the processor, the opera-  
10 tions associated with the commands contained in the data structure to modify the data as  
11 directed by the commands as the data is transferred from the source to the destination.
- 1 2. (CURRENTLY AMENDED) AThe method as defined in claim 1 further comprising  
2 the step of:  
3       acquiring the data from the source.
- 1 3. (CURRENTLY AMENDED) AThe method as defined in claim 2 further comprising  
2 the steps of:  
3       generating a bit mask associated with the acquired data; and  
4       transferring the bit mask and the acquired data to the destination.
- 1 4. (CURRENTLY AMENDED) AThe method as defined in claim 2 wherein the data  
2 structure comprises one or more entries wherein each entry is associated with a command  
3 and the entry contains information associated with a range of addresses and an operation  
4 code that are associated with the command.

1 | 5. (CURRENTLY AMENDED) ~~A~~The method as defined in claim 4 further comprising  
2 the step of:

3       searching the data structure for an entry containing information associated with a  
4 range of addresses that matches a range of addresses associated with the acquired data;  
5       if a matching entry is found, determining if an operation code contained in the  
6 matching entry indicates a delete data operation; and  
7       if so, generating a delete bit mask that represents data that is deleted in the ac-  
8 quired data and transferring the delete bit mask and the acquired data to the destination.

1 | 6. (CURRENTLY AMENDED) ~~A~~The method as defined in claim 4 comprising the steps  
2 of:

3       searching the data structure for an entry containing information associated with a  
4 range of addresses that matches a range of addresses associated with the acquired data;  
5       if a matching entry is found, determining if an operation code contained in a  
6 matching entry indicates an insert data operation; and if so,  
7             a) generating a leading bit mask that represents leading data contained in  
8 the acquired data,  
9             b) transferring the leading bit mask and the acquired data to the destina-  
10       tion,  
11             c) acquiring insert data,  
12             d) generating an insert data bit mask that represents the insert data,  
13             e) transferring the insert data bit mask and the insert data to the destina-  
14       tion,  
15             f) generating a lagging bit mask that represents lagging data contained in  
16 the acquired data, and  
17             g) transferring the lagging bit mask and the acquired data to the  
18 destination.

1 | 7. (CURRENTLY AMENDED) ~~A~~The method as defined in claim 4 wherein each entry  
2 | contains a length and a source address associated with the command.

1 | 8. (CURRENTLY AMENDED) ~~A~~The method as defined in claim 7 comprising the step  
2 | of:

3 |       searching the data structure for an entry containing information associated with a  
4 | range of addresses specified by the combination of the length and the source address con-  
5 | tained in the entry that matches a range of addresses associated with the acquired data.

1 | 9. (CURRENTLY AMENDED) ~~A~~The method as defined in claim 1 wherein the data  
2 | structure is a table.

1 | 10. (CURRENTLY AMENDED) ~~A~~The method as defined in claim 1 comprising the  
2 | step of:  
3 |       clearing the data structure.

1 | 11. (CURRENTLY AMENDED) ~~A~~The method as defined in claim 1 wherein the source  
2 | is a context memory.

1 | 12. (CURRENTLY AMENDED) ~~A~~The method as defined in claim 1 wherein the desti-  
2 | nation is an output buffer.

1 | 13. (CURRENTLY AMENDED) A system comprising:  
2 |       a context memory configured to hold data;  
3 |       a data structure configured to hold one or more commands;  
4 |       a processor configured to read one or more instructions, each instruction indicat-  
5 | ing an operation to modify the data, and in response generate one or more commands to  
6 | modify the data, the processor further configured to~~and~~ place the commands in the data  
7 | structure;

8           an output buffer; and  
9           a data mover coupled to the context memory and the output buffer and configured  
10       to acquire the data from the context memory, modify the data as directed by the com-  
11       mands contained in the data structure, and transfer the modified data to the output buffer.

1 | 14. (CURRENTLY AMENDED) AThe system as defined in claim 13 wherein the data  
2       structure is a table.

1 | 15. (CURRENTLY AMENDED) AThe system as defined in claim 13 wherein the data  
2       structure comprises one or more entries wherein each entry is associated with a command  
3       and the entry contains information associated with a range of addresses and an operation  
4       code that are associated with the command.

1 | 16. (CURRENTLY AMENDED) AThe system as defined in claim 15 wherein the data  
2       mover is configured to search the data structure for an entry containing information asso-  
3       ciated with a range of addresses that matches a range of addresses associated with the ac-  
4       quired data and if a matching entry is found, determine if the operation code contained in  
5       the matching entry indicates a delete data operation and, if so, generate a delete bit mask  
6       that represents data that is deleted in the acquired data.

1 | 17. (CURRENTLY AMENDED) AThe system as defined in claim 15 wherein the data  
2       mover is configured to search the data structure for an entry containing information asso-  
3       ciated with a range of addresses that matches a range of addresses associated with the ac-  
4       quired data and if a matching entry is found, determine if the operation code contained in  
5       the matching entry indicates an insert data operation and if so, (i) generate a leading bit  
6       mask that represents leading data contained in the acquired data, (ii) transfer the leading  
7       bit mask and acquired data to the destination, (iii) acquire insert data, (iv) generate an in-  
8       sert data bit mask that represents the insert data, (v) transfer the insert data bit mask and  
9       insert data to the destination, (vi) generate a lagging bit mask that represents lagging data

10 contained in the acquired data, and (vii) transfer the lagging bit mask and the acquired  
11 data to the destination.

1 | 18. (CURRENTLY AMENDED) AThe system as defined in claim 15 wherein each en-  
2 try in the data structure contains a length and a source address associated with the com-  
3 mand.

1 | 19. (CURRENTLY AMENDED) AThe system as defined in claim 18 wherein the data  
2 mover is configured to search the data structure for an entry containing information asso-  
3 ciated with a range of addresses specified by the combination of the length and the source  
4 address contained in the entry that matches a range of addresses associated with the ac-  
5 quired data.

1 | 20. (CURRENTLY AMENDED) AThe system as defined in claim 13 wherein the data  
2 mover is configured to generate a bit mask associated with the data and transfer the bit  
3 mask to the output buffer.

1 | 21. (CURRENTLY AMENDED) AThe system as defined in claim 20 wherein the out-  
2 put buffer comprises:  
3 data steering logic configured to use the bit mask to identify valid data contained  
4 in the transferred data;  
5 a working register coupled to the data steering logic and configured to hold the  
6 valid data transferred from the data steering logic; and  
7 an output queue coupled to the working register and configured to hold the valid  
8 data transferred from the working register.

1 22. (CURRENTLY AMENDED) An apparatus for modifying data transferred from a  
2 source to a destination, the apparatus comprising:

3        means for reading one or more instructions, each instruction indicating an opera-  
4        tion to modify the data;

5        means for generating, in response to the one or more instruction, one or more  
6        commands wherein each command is associated with an operation to modify the data;

7        means for placing the commands in a data structure;

8        means for initiating transfer of data from the source to the destination; and

9        means for performing, independent from the means for generating, the operations  
10       associated with the commands contained in the data structure to modify the data as di-  
11       rected by the commands as the data is transferred from the source to the destination.

1       23. (CURRENTLY AMENDED) ~~An~~ The apparatus as defined in claim 22 comprising:  
2       means for acquiring the data from the source.

1       24. (CURRENTLY AMENDED) ~~An~~ The apparatus as defined in claim 23 comprising:  
2       means for generating a bit mask associated with the acquired data; and  
3       transferring the bit mask and the acquired data to the destination.

1       25. (CURRENTLY AMENDED) ~~An~~ The apparatus as defined in claim 23 wherein the  
2       data structure comprises one or more entries wherein each entry is associated with a  
3       command and the entry contains information associated with a range of addresses and an  
4       operation code that are associated with the command.

1       26. (CURRENTLY AMENDED) ~~An~~ The apparatus as defined in claim 25 comprising:  
2       means for searching the data structure for an entry containing information associ-  
3       ated with a range of addresses that matches a range of addresses associated with the ac-  
4       quired data;  
5       means for determining if the operation code contained in a matching entry indi-  
6       cates a delete data operation; and

means for generating a delete bit mask that represents data that is deleted in the acquired data and transferring the delete bit mask and the acquired data to the destination, if the operation code in the matching entry indicates a delete data operation.

27. (CURRENTLY AMENDED) ~~An~~The apparatus as defined in claim 25 comprising:

means for searching the data structure for an entry containing information associated with a range of addresses that matches a range of addresses associated with the acquired data;

means for determining if the operation code contained in a matching entry indicates an insert data operation; and

means for (i) generating a leading bit mask that represents leading data contained in the acquired data, (ii) transferring the leading bit mask and the acquired data to the destination, (iii) acquiring insert data, (iv) generating an insert data bit mask that represents the insert data, (v) transferring the insert data bit mask and the insert data to the destination, (vi) generating a lagging bit mask that represents lagging data contained in the acquired data, and (vii) transferring the lagging bit mask and the acquired data to the destination, if the operation code indicates an insert data operation.

28. (CURRENTLY AMENDED) A computer readable medium comprising computer executable instructions for execution in a processor for:

reading one or more instructions indicating an operation to modify the data;  
generating, in response to the one or more instructions, one or more commands  
wherein each command is associated with ~~an~~the operation to modify the data;  
placing the commands in a data structure;  
initiating transfer of data from the source to the destination; and  
performing the operations associated with the commands contained in the data structure to modify the data as directed by the commands as the data is transferred from the source to the destination.

1 | 29. (CURRENTLY AMENDED) AThe computer readable medium as defined in claim  
2 | 28 comprising computer executable instructions for execution in a processor for:  
3 |       acquiring the data from the source.

1 | 30. (CURRENTLY AMENDED) AThe computer readable medium as defined in claim  
2 | 29 comprising computer executable instructions for execution in a processor for:  
3 |       generating a bit mask associated with the acquired data; and  
4 |       transferring the bit mask and the acquired data to the destination.

1 | 31. (CURRENTLY AMENDED) AThe computer readable medium as defined in claim  
2 | 29 wherein the data structure comprises one or more entries wherein each entry is associ-  
3 | ated with a command and contains information associated with a range of addresses and  
4 | an operation code that are associated with the command.

1 | 32. (CURRENTLY AMENDED) AThe computer readable medium as defined in claim  
2 | 31 comprising computer executable instructions for execution in a processor for:  
3 |       searching the data structure for an entry containing information associated with a  
4 | range of addresses that matches a range of addresses associated with the acquired data;  
5 |       if a matching entry is found, determining if an operation code contained in the  
6 | matching entry indicates a delete data operation; and  
7 |       if so, generating a delete bit mask that represents data that is deleted in the ac-  
8 | quired data and transferring the delete bit mask and the acquired data to the destination.

1 | 33. (CURRENTLY AMENDED) AThe computer readable medium as defined in claim  
2 | 31 comprising computer executable instructions for execution in a processor for:  
3 |       searching the data structure for an entry containing information associated with a  
4 | range of addresses that matches a range of addresses associated with the acquired data;  
5 |       if a matching entry is found, determining if an operation code contained in a  
6 | matching entry indicates an insert data operation; and if so,



- 7                   a) generating a leading bit mask that represents leading data contained in
- 8   the acquired data,
- 9                   b) transferring the leading bit mask and the acquired data to the destina-
- 10           tion,
- 11                  c) acquiring insert data,
- 12                  d) generating an insert data bit mask that represents the insert data,
- 13                  e) transferring the insert data bit mask and the insert data to the destina-
- 14           tion,
- 15                  f) generating a lagging bit mask that represents lagging data contained in
- 16   the acquired data, and
- 17                  g) transferring the lagging bit mask and the acquired data to the
- 18           destination.